

IN THE CLAIMS:

1. (Original) A fluorescent lamp comprising:

a base;

a first constituent tube that has a U-shaped discharge path and is disposed so that a first end and a second end thereof are positioned on the base side of the fluorescent lamp, and a turning portion thereof where the discharge path turns is positioned away from the base;

a second constituent tube that has a U-shaped discharge path and is disposed so that a third end and a fourth end thereof are positioned on the base side of the fluorescent lamp, and a turning portion thereof where the discharge path turns is positioned away from the base; and

a bridge that connects a first area in a vicinity of the first end of the first constituent tube with a second area in a vicinity of the third end of the second constituent tube so as to join the two discharge paths, wherein

distances between the first constituent tube and the second constituent tube gradually become smaller from the base side toward the turning portion side of the fluorescent lamp, and

$D2/D1$ is within a range of 0.05 to 0.70 inclusive, where $D1$ is a distance between (a) a point closest to the base within the first area and (b) a point closest to the base within the second area, and $D2$ is a shortest distance, on the turning portion side of the fluorescent lamp, between the first constituent tube and the second constituent tube.

2. (Original) The fluorescent lamp of Claim 1, wherein
in each of the first constituent tube and the second constituent tube, a straight-line distance between the point at which D1 is measured and a point at which D2 is measured is within a range of 50 mm to 200 mm inclusive.
3. (Original) The fluorescent lamp of Claim 1, wherein
a first imaginary line and a second imaginary line cross at an angle that is within a range of 0.4 to 3.0 degrees inclusive, where the first imaginary line is a straight line that connects two points in the first constituent tube at which D1 and D2 are measured respectively, and the second imaginary line is a straight line that connects two points in the second constituent tube at which D1 and D2 are measured respectively.
4. (Original) The fluorescent lamp of Claim 1, wherein
metal mercury vapor is enclosed in the joined discharge paths, and
a coldest-point control method is used to control a vapor pressure in the joined discharge paths.
5. (Original) The fluorescent lamp of Claim 1, wherein
the first and second ends of the first constituent tube and the third and fourth ends of the second constituent tube are at least partially cased inside the base.

6. (Original) A fluorescent lamp comprising:

a base;

a first constituent tube that has a U-shaped discharge path and is disposed on the base so that a first end and a second end thereof are positioned on the base side of the fluorescent lamp, and a turning portion thereof where the discharge path turns is positioned away from the base;

a second constituent tube that has a U-shaped discharge path and is disposed on the base so that a third end and a fourth end thereof are positioned on the base side of the fluorescent lamp, and a turning portion thereof where the discharge path turns is positioned away from the base; and

a bridge that connects a first area in a vicinity of the first end of the first constituent tube with a second area in a vicinity of the third end of the second constituent tube so as to join the discharge paths, wherein

distances between the first constituent tube and the second constituent tube gradually become smaller from the base side toward the turning portion side of the fluorescent lamp, and

external surfaces of the first constituent tube and the second constituent tube are in contact with each other on the turning portion side of the fluorescent lamp.

7. (Original) A fluorescent lamp comprising:

a base;

a first constituent tube that (i) is made up of at least a first straight tube, a second straight tube, and a first bridge, both ends of the first straight tube and both ends

of the second straight tube being closed, and the first bridge connecting an area in a vicinity of one of the ends of the first straight tube with an area in a vicinity of one of the ends of the second straight tube so as to form a U-shaped discharge path, and (ii) is disposed on the base so that unconnected ends of the first and second straight tubes are positioned on the base side of the fluorescent lamp, and the areas connected by the first bridge are positioned away from the base;

a second constituent tube that (i) is made up of at least a third straight tube, a fourth straight tube, and a second bridge, both ends of the third straight tube and both ends of the fourth straight tube being closed, and the second bridge connecting an area in a vicinity of one of the ends of the third straight tube with an area in a vicinity of one of the ends of the fourth straight tube so as to form a U-shaped discharge path, and (ii) is disposed on the base so that unconnected ends of the third and fourth straight tubes are positioned on the base side of the fluorescent lamp, and the areas connected by the second bridge are positioned away from the base; and

an inter-constituent bridge that connects a first area in the first constituent tube on the base side of the fluorescent lamp with a second area in the second constituent tube on the base side of the fluorescent lamp so as to join the two U-shaped discharge paths, wherein

distances between the first constituent tube and the second constituent tube gradually become smaller from the base side toward the first and second bridge side of the fluorescent lamp, and

$D2/D1$ is within a range of 0.05 to 0.70 inclusive, where $D1$ is a distance between (a) a point closest to the base within the first area and (b) a point closest to the base within the second area, and $D2$ is a shortest distance, on the first and second bridge

side of the fluorescent lamp, between the first constituent tube and the second constituent tube.

8. (Original) The fluorescent lamp of Claim 7, wherein

a first imaginary line and a second imaginary line cross at an angle that is within a range of 0.4 to 3.0 degrees inclusive, where the first imaginary line is a straight line that connects two points in the first constituent tube at which D1 and D2 are measured respectively, and the second imaginary line is a straight line that connects two points in the second constituent tube at which D1 and D2 are measured respectively.

9. (Original) A fluorescent lamp comprising:

a base;

a first constituent tube that (i) is made up of at least a first straight tube, a second straight tube, and a first bridge, both ends of the first straight tube and both ends of the second straight tube being closed, and the first bridge connecting an area in a vicinity of one of the ends of the first straight tube with an area in a vicinity of one of the ends of the second straight tube so as to form a U-shaped discharge path, and (ii) is disposed on the base so that unconnected ends of the first and the second straight tubes are positioned on the base side of the fluorescent lamp, and the areas connected by the first bridge are positioned away from the base;

a second constituent tube that (i) is made up of at least a third straight tube, a fourth straight tube, and a second bridge, both ends of the third straight tube and both ends of the fourth straight tube being closed, and the second bridge connecting an area in a vicinity of one of the ends of the third straight tube with an area in a vicinity of

one of the ends of the fourth straight tube so as to form a U-shaped discharge path, and (ii) is disposed on the base so that unconnected ends of the third and the fourth straight tubes are positioned on the base side of the fluorescent lamp, and the areas connected by the second bridge are positioned away from the base; and

an inter-constituent bridge that connects a first area in the first constituent tube on the base side of the fluorescent lamp with a second area in the second constituent tube on the base side of the fluorescent lamp so as to join the two U-shaped discharge paths, wherein

distances between the first constituent tube and the second constituent tube gradually become smaller from the base side toward the first and second bridge side of the fluorescent lamp, and

external surfaces of the first constituent tube and the second constituent tube are in contact with each other on the first and second bridge side of the fluorescent lamp.

10. (Original) A manufacturing method of a fluorescent lamp, comprising:

a hole opening step of opening holes, by melting with heat, each in an area in a vicinity of a first end of a first constituent tube and in an area in a vicinity of a second end of a second constituent tube, the first and second constituent tubes each having a U-shaped discharge path;

a joining step of joining, after the hole opening step is performed, a first melted area formed around the hole in the first constituent tube with a second melted area formed around the hole in the second constituent tube;

a distance adjusting step of adjusting D1 and D2 so that $D2/D1$ is within a range of 0.05 to 0.70 inclusive, where D1 is a distance between the first melted area in the first constituent tube and the second melted area in the second constituent tube, and D2 is a shortest distance, on a turning portion side of the fluorescent lamp, between the first constituent tube and the constituent tube, the turning portion being where each U-shaped discharge path turns; and

a holding step of holding, after the distance adjusting step is performed, the first and second constituent tubes until the first and second melted areas have a temperature that is equal to or colder than a strain point of a glass material of which the constituent tubes are made

11-12. (Cancelled)